

Application No. 10/538,383
Group Art Unit: 1621
Response dated March 4, 2008

REMARKS

Claim status

Claims 4-14 are pending and rejected over the prior art.

The previous rejections under 35 U.S.C. Sections 102(e) and 112 were withdrawn by the Examiner. Applicants appreciate the Examiner's reconsideration and withdrawal of these rejections.

The sole remaining issue in the application is the rejection of the claims under 35 U.S.C. 103(a). New arguments for consideration are submitted with this Submission.

Claim Rejection under 35 U.S.C. Section 103(a)

Claims 4-14 have been rejected under 103(a) as being unpatentable over U.S. Pat. No. 6,743,931 ("Saebo") in view of U.S. Pat. No. 6,420,577 ("Reaney").

According to the Examiner, Reaney is cited and relied upon for its teaching of crystallization as a purification step after saponification as an obvious modification in a process for the production of conjugated linoleic acid ("CLA").

The rejection is respectfully traversed.

For the following reasons, it is submitted that the process of the present invention provides a higher yield of CLA than the processes of the prior art, which rebuts any presumption of a *prima facie* case of obviousness.

At page 3, lines 4-5, the Specification describes that "The production from linoleic acid lower alkyl esters affords the possibility of obtaining products with a CLA content of **> 78%**. (Emphasis added.)

At page 7 of the Examples, Table 2, the yield of total CLA content obtained by crystallization in the process of the invention is reported as **86%**.

By way of comparison, the yield of CLA obtained by the crystallization step of Reaney is substantially less as discussed hereinafter.

Example 21 of Reaney describes that:

"Five hundred grams of fatty acid produced as described in example 1 was chilled to -20° C. and then warmed at 4° C. The chilling and thawing treatment **resulted in the formation of persistent crystals** that were readily removed from the fatty acids by filtration. The fatty acids were filtered over a chilled Buchner funnel at 4° C. **One hundred and twenty five grams of fatty acid were retained on the filter** while 375 grams passed through. **The solid fatty acids retained on the filter contained a substantial amount of the desired CLA product.** This product was substantially recovered by washing the solid fatty acids with 50 g of chilled sunflower oil. As the sunflower oil is substantially less valuable than the CLA product its loss in this procedure was acceptable. The final CLA product was further enriched by approximately 10% in total CLA content." (Emphasis added.)

In Example 21 of Reaney, there were 500 grams of starting material containing CLA. After crystallization, 125 grams were obtained which contained "a substantial amount of the desired CLA product." This represents a yield of only 25% CLA obtained by the process.

Example 24 of Reaney describes that:

"Conjugated linoleic acid prepared as described in example 1 (22.3 g) was dissolved in 25 mL of acetone and the mixture was chilled to -18° C. where a solid precipitate was observed. The precipitate was removed by filtration and washed and weighed and the NMR spectrum recorded. The 2.5 g of recovered precipitate was found to contain primarily saturated fatty acids. The filtrate was diluted with a further 25 mL of acetone and then chilled to -60° C. whereupon a second white precipitate formed. The second precipitate was filtered at -60° C. and washed twice with acetone chilled to the same temperature. Solvent was evaporated from both phases and the weight and NMR spectra of each phase were recorded. The warmed crystals (15.1 g) melted to produce a clear solution enriched in conjugated fatty acids while the solution evaporated to yield 4.6 g of a clear but intensely yellow liquid." (Emphasis added.)

Thus, the yield of CLA in Example 24 of Reaney was 68% (15.1 g/22.3 g).

In summary, the yields of CLA obtained by crystallization as described by the Examples of Reaney were 68% at the highest.

This yield is substantially lower than that achieved by way of the process of the invention, which higher yield desirably results in a high yield, high quality CLA product,

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which is more suitable for use as a dietary supplement or food additive than the CLA obtained by way of the prior art.

So, even assuming that one of skill in the art would combine the teachings of Saebo and Reaney by incorporating the crystallization step of Reaney as a purification step of CLA, the results obtained, as described above, are inferior to those of the process of the present invention.

It is therefore respectfully submitted that the superior results in yield of CLA produced by way of the present invention over the prior art has been demonstrated. This demonstration of superior results achieved by way of the claimed process rebuts any presumption of a *prima facie* case of obviousness in view of the combination of the prior art.

Accordingly, it is respectfully submitted that Claims 4-14 are patentable over the prior art.

The Examiner is kindly requested to reconsider and withdraw the rejection of Claims 4-14 as obvious over the combination of Saebo and Reaney.

Fees Due

No additional fees are believed due, but the Commissioner is authorized to charge any fees deemed due (or credit any balance owing) to Deposit Account No. 50-1177.

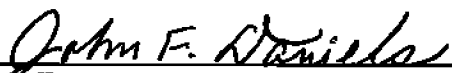
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Favorable reconsideration and a Notice of Allowance are respectfully solicited. If there are any remaining issues, the Examiner is kindly invited to contact the undersigned.

Respectfully submitted,

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Date


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